

**Notice of Allowability**

Application No.

10/790,069

Examiner

Michael C. Henry

Applicant(s)

LIN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 12/14/06.
2. ☒ The allowed claim(s) is/are 1-7, 19-24. These claims are renumbered 1-13, respectively.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

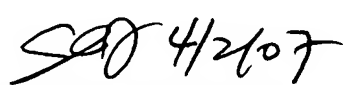
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
SHAOJIA ANNA JIANG, PH.D.  
SUPERVISORY PATENT EXAMINER

***EXAMINER'S AMENDMENT/REASONS FOR ALLOWANCE***

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joe McKinney Muncy (Reg # 32,334) on 03/30/07.

The application has been amended as follows:

In claim 1, line 5, the word "initial" has been deleted.

In claim 1, lines 7-8, the phrase "acarbose-containing fermentation broth" has been deleted and the phrase ---impure acarbose solution--- has been inserted therefor.

In claim 2, line 3, the phrase "to be" has been deleted and the word ---as--- has been inserted therefor.

In claim 19, line 9, the word "acarbose" has been deleted and the term ---acarbose-containing--- has been inserted therefor.

In claim 19, line 11, the word "be" has been deleted.

In claim 19, line 12, the word "by" has been deleted and the word ---using--- has been inserted therefor.

In claim 20, line 1, the number "20" has been deleted and the number ---19--- has been inserted therefor.

In claim 21, line 3, the first word "volume" has been deleted.

In claim 24, line 2, the word ---to--- has been inserted between the word “up” and the term “95%”.

The following is an examiner’s statement of reasons for allowance: The examiner has found claims 1-7 and 19-24 to be unobvious over the prior art of record and therefore to be allowable over the prior art of record. The present invention relates to a purification process for manufacturing a high pure acarbose from an acarbose-containing fermentation broth, comprising the steps of: using alcohol for precipitation of a concentrate from the fermentation broth; mixing alcohol with the concentrate to form a sediment; dissolving the sediment using distilled water to form an impure acarbose solution; using a strongly cation exchange chromatography and an immobilized enzyme affinity chromatography for purification of the impure acarbose solution. The relevant prior art document (US 6,649,755 B1) discloses a method of producing pure acarbose. However, the method of the present invention is different and unobvious over that disclosed in the prior art document. For example, the prior art does not teach the alcohol precipitation from a fermentation broth, mixing the alcohol with the concentrate to form a sediment, dissolving the sediment in water to form an impure acarbose solution. In addition, it is not obvious to perform the said steps comprising the use of the alcohol on said fermentation broth.

### ***Conclusion***

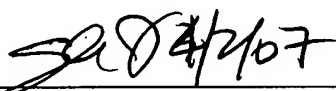
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Henry whose telephone number is 571-272-0652. The examiner can normally be reached on 8.30am-5pm; Mon-Fri. If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Shaojia A. Jiang can be

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reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael C. Henry

A handwritten signature in black ink, appearing to read 'SAJ 4/2/07', is written over a horizontal line.

Shaojia Anna Jiang, Ph.D.  
Supervisory Patent Examiner  
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March 30, 2007.